

Central Valley Regional Water Quality Control Board

10 November 2017

Mr. Parry Klassen, Executive Director
East San Joaquin Water Quality Coalition
1201 L Street
Modesto, CA 95354

APPROVAL OF THE 2018 WATER YEAR MONITORING PLAN UPDATE – EAST SAN JOAQUIN WATER QUALITY COALITION

Thank you for the timely submittal of the Monitoring Plan Update (MPU) for the 2018 water year within the East San Joaquin Water Quality Coalition (Coalition) Area. Staff reviewed the proposed monitoring plan for compliance with the Monitoring and Reporting Program (MRP) R5-2012-0116-R3 (Order).

Staff determined that the Coalition's proposed schedule includes monitoring of constituents during application periods, or the time when constituents of concern affected water quality in the past, and that the proposed monitoring plan complies with the MRP requirements (see attachment). Pesticides were identified using the approved pesticide evaluation protocol as required in MRP, Section III.C.3 and the proposed monitoring schedule is consistent with the requirements of the Order. Note that trigger limits for previously untested pesticides will be developed by the Central Valley Water Board staff through a process involving coordination with the Department of Pesticide Regulation and Stakeholder input.

Based on the attached staff memorandum, I approve the Coalition's Monitoring Plan for the 2018 water year. Please review the attached staff memo including the Staff Recommendations.

If you have any questions or comments regarding this approval letter, please contact Yared Kebede by phone at (916) 464-4828 or by email at yared.kebede@waterboards.ca.gov.

Sincerely,

Original signed by Adam Laputz for

Pamela C. Creedon
Executive Officer

Enclosure: Staff Review of Monitoring Plan Update

Central Valley Regional Water Quality Control Board

TO: Susan Fregien
Senior Environmental Scientist
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

FROM: Yared Kebede
Environmental Scientist
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

DATE: 27 October 2017

SUBJECT: EAST SAN JOAQUIN WATER QUALITY COALITION'S
MONITORING PLAN UPDATE FOR 2018 WATER YEAR

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) received a Monitoring Plan Update (MPU) report from the East San Joaquin Water Quality Coalition (Coalition) on 1 August 2017, as required by the Monitoring and Reporting Program (MRP) R5-2012-0116-R3 (Order). The MPU report provides the proposed surface water monitoring schedule for the 2018 water year (1 October 2017 through 30 September 2018).

On 16 August, staff and Coalition representatives discussed specific options to reduce surface water monitoring during the 2018 water year (WY) and provide funding to the Delta RMP. On 1 September, the Coalition submitted a proposal outlining the proposed monitoring trades to compensate for its monetary contribution to the Delta RMP.

Staff reviewed the 2018 WY MPU to determine compliance with requirements pursuant to the MRP Order. Overall, the proposed monitoring plan meets the requirements of the Order, and staff recommends approval of the Coalition's 2018 WY MPU. A summary of the main elements of the proposed monitoring plan is below.

Monitoring Sites, Parameters, Schedule and Frequency

The monitoring design for the 2018 WY includes six Core sites (one Core site for each of the six zones in the Coalition region), 21 Represented sites, and three sites established for diazinon and chlorpyrifos Total Maximum Daily Load (TMDL) compliance on the San Joaquin River. As required by the MRP Order, the Coalition identified a specific set of monitoring parameters for each site that is scheduled to be monitored (see MPU, Tables 1 and 2), selected appropriate monitoring periods and included a discussion of the rationale to support the proposed schedule. The Coalition will also schedule sampling events to capture at least two storm runoff events per year.

Delta Regional Monitoring Program

On 22 September 2017, the Executive Officer approved monitoring trades for the Coalition's participation with the Delta Regional Monitoring Program. The Coalition is approved to trade all

management plan and assessment monitoring at the Highline Canal @ Lombardy Rd, and utilize the ongoing management plan monitoring (MPM) at the downstream Highline Canal @ Hwy 99 site to demonstrate compliance with the Order. In addition, toxicity monitoring for *Pimephales promelas* will be traded at Core sites that have been adequately characterized. *P. promelas* toxicity testing will continue at all MPM (Duck Slough @ Gurr Rd, Deadman Creek @ Gurr Rd) and Represented (Canal Creek @ West Bellevue Rd) sites during months of past exceedances.

1. Core Site Monitoring

The Coalition scheduled monitoring at the designated Core sites (MPU Table 5) for the 2018 WY as required by the Order. These Core sites will be monitored for field parameters, nutrients, pathogens, pesticides, metals, and water column toxicity to *Ceriodaphnia dubia*, *Selenastrum capricornutum* and *Pimephales promelas* (as described above), and sediment toxicity to *Hyalella azteca*. A monitoring schedule was identified for each site and constituent per the MRP Order. When a water quality objective or a trigger limit is exceeded at the monitored Core site, the parameter associated with the exceedance will be monitored for a third consecutive year, unless the site is under a management plan.

Pesticides: The Coalition utilized the Pesticides Evaluation Protocol (PEP) to select the pesticides proposed in the MPU. The pesticides proposed for each subwatershed depend on pesticide use, and prioritization of monitoring (ranking of pesticides) based on aquatic life and human health reference values. In addition, environmental fate factors, available monitoring data, availability of analytical methods and site specific considerations (average monthly use, management plan status) were evaluated when selecting the pesticides proposed for the 2018 WY monitoring (Table 2 MPU). Staff conducted a thorough review of implementation of the protocol steps and concurs with proposed pesticides monitoring.

Metals: The Coalition utilized the PEP to determine the monitoring frequency of applied metals (boron, copper, zinc). In addition, the Coalition followed the flowchart in Figures 3 of the MPU and provides justification for a decision whether monitoring is needed for arsenic, cadmium, lead, molybdenum, nickel, and selenium. The evaluation considers previous monitoring data, 303(d) status, monitoring history (adequate characterization and exceedances), management plan status, Toxicity Identification Evaluation (TIE) results, pesticide application history and acres treated. Staff reviewed the Coalition's decision process and proposed monitoring schedule and concurs with the metals monitoring decision.

Aquatic and Sediment Toxicity: The Coalition proposes to conduct *C. dubia* and *S. capricornutum* toxicity monitoring based on an evaluation of pesticide applications that were identified through the PEP process and assessment of whether the test species are sensitive to pesticides that warrant monitoring. If the target species is not sensitive to the pesticides associated with a given site and month, the Coalition then assesses whether toxicity of the species has occurred at the site within the past three years. If toxicity has not occurred, the test species is not proposed for monitoring. Staff concurs with this approach, under the condition that toxicity testing of the species at a site during a given month is resumed after a period of 6 years of no monitoring, even if the pesticide evaluation suggests a low risk of toxicity to the species. Recurring toxicity testing should confirm the use of this approach.

The proposed toxicity monitoring is consistent with the purpose of toxicity testing (MRP, Section III C.4): 1) evaluate compliance with the Basin Plan narrative toxicity water quality objective; 2) identify the causes of toxicity when and where it is observed (e.g. metals, pesticides, ammonia); and 3) evaluate any additive toxicity or synergistic effects due to the presence of multiple

constituents. Per the MRP, the Coalition will conduct TIEs to identify the potential sources of toxicity when percent survival or growth is 50% or less compared to the control. The Coalition will also monitor sediment toxicity to *H. azteca* twice a year at each Core site (once each during irrigation and storm runoff events). Additional sediment chemistry analyses will be conducted on sediment samples when survival of *H. azteca* is less than 80% compared to the control and statistically significant.

2. Represented Site Monitoring

The proposed monitoring at the Represented sites (MPU pages 37-104) is based on: a) the management plans for high-priority constituents (pesticides, applied metals and toxicity) already in place at each Represented site, and b) exceedances of the trigger limit for a constituent at the representative Core site that are evaluated and deemed to also pose a threat to water quality at the Represented site.

- a) The evaluation of MPM took into account previous monitoring results and pesticide use reports (MPU Figures 5 - 28) for the high-priority constituents in Represented subwatersheds. The evidence considered in the evaluation of MPM is documented for high-priority constituents (pesticides and applied metals), and the MPU contains a justification for the proposed monitoring schedule.
- b) To evaluate the potential for similar risks or threats to water quality at the Represented sites when an exceedance of a water quality trigger limit was observed at a Core site, the Coalition considered pesticide use information (including pounds of Active ingredients and trends in use through time), previous monitoring results, and acres treated.

Similar to the 2017 WY, monitoring for constituents with potential irrigated agriculture sources that need further evaluation (ammonia, nitrate, arsenic, lead and molybdenum, and DDE) will occur at the Represented sites once an appropriate monitoring strategy is defined. However, a second year of nitrate and ammonia monitoring will occur at three Represented sites (Lateral 6 and 7 @ Central Ave, Lower Stevinson @ Faith Home Rd and Unnamed Drain @ Hugin Rd) that were characterized for nutrients for the first time during the 2017 WY. Staff conducted a detailed review of the evaluations and justifications for monitoring decisions, and agrees with the rationale and monitoring decisions provided in the MPU for all constituents.

3. Management Plan Monitoring

The Coalition followed an evaluation process (MPU Figure 1) for high priority constituents to conduct focused outreach and water quality monitoring in site subwatersheds that will reach the compliance deadline within three years. The Coalition's Management Plan Strategy will allow the Coalition to identify and implement management practices necessary to meet the receiving water limitations, evaluate compliance, and meet the 10-year deadline (or sooner), as required by the Order.

Similar to the 2017 WY monitoring, management plan monitoring for field parameters (DO, pH), metals (arsenic, molybdenum), nutrients (ammonia, nitrate) and the legacy pesticide DDE will occur as part of an approved source identification study. The Coalition proposes to submit its *E. coli* management plan strategy as directed by the EO June 2017 letter before the submission of the 2018 Annual Report (1 May 2018).

TMDL Monitoring

The Coalition will continue monitoring at three compliance points on the San Joaquin River (San Joaquin River at Hills Ferry Rd, San Joaquin River at the Maze Blvd Bridge, San Joaquin River

at the Airport Way Bridge near Vernalis) for chlorpyrifos and diazinon TMDL compliance in the 2018 WY. To assess compliance with the load allocations, monitoring of TMDL constituents will occur at six Core sites; chlorpyrifos will also be monitored at seven Represented sites. Monitoring requirements for the remaining adopted TMDLs (San Joaquin River Deep Water Ship Channel dissolved oxygen and San Joaquin River salt, boron) will continue to be conducted at the Core and Represented monitoring sites.

STAFF RECOMMENDATIONS

- Ammonia monitoring should continue in January at Lateral 6 and 7 @ Central Ave, Lower Stevinson @ Faith Home Rd and Unnamed Drain @ Hogin Rd in the 2018 WY. Nitrate monitoring should continue at Unnamed Drain @ Hogin Rd (Feb-Jul, Sep-Nov).
- Toxicity monitoring for *P. promelas* should continue at all Management Plan Monitoring and Represented sites as proposed in the 2018 WY Monitoring Plan Update.
- The water column toxicity monitoring strategy is appropriate, under the condition that toxicity monitoring should be conducted on a recurring basis, even if the pesticide evaluation suggests a low risk of toxicity to the test species.
- Staff recommends approval of the Coalition's 2018 WY Monitoring Plan Update.